

Appl. No. 09/783,377

In the Claims

Please replace the claims with the following clean version of the entire set of pending claims, in accordance with 37 C.F.R. § 1.121(c)(1)(i). Cancel all previous versions of any indicated claim. A marked up version showing amendments to any claims being changed is provided in one or more accompanying pages separate from this amendment in accordance with 37 C.F.R. § 1.121(c)(1)(ii). Any claim not accompanied by a marked up version has not been changed relative to the immediate prior version, except that marked up versions are not being supplied for any added claim or canceled claim.

Please cancel claims 1-20 and 29-31.

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21. A physical vapor deposition target consisting essentially of aluminum and less than or equal to 1000 ppm of one or more dopant materials comprising elements selected from the group consisting of Ac, Ag, As, B, Ba, Be, Bi, C, Ca, Cd, Ce, Co, Cr, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ge, Hf, Ho, In, Ir, La, Lu, Mg, Mn, Mo, N, Nb, Nd, Ni, O, Os, P, Pb, Pd, Pm, Po, Pr, Pt, Pu, Ra, Rf, Rh, Ru, S, Sb, Sc, Se, Si, Sm, Sn, Sr, Ta, Tb, Te, Ti, Tl, Tm, V, W, Y, Yb, Zn and Zr; the physical vapor deposition target having an average grain size of less than 100 microns.

22. The physical vapor deposition target of claim 21 having an average grain size of less than or equal to 45 microns.

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23. The physical vapor deposition target of claim 21 consisting of Al and less than 100 ppm of one or more of Si, Sc, Ti and Hf.

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24. The physical vapor deposition target of claim 21 consisting of Al and from 10 ppm to 100 ppm of one or more of Si, Sc, Ti and Hf.

25. The physical vapor deposition target of claim 21 consisting of Al and from 10 ppm to 100 ppm of Sc; the target having an average grain size of less than or equal to 45 microns.

26. The physical vapor deposition target of claim 21 consisting of Al and from 10 ppm to 100 ppm of Si; the target having an average grain size of less than or equal to 35 microns.

27. The physical vapor deposition target of claim 21 consisting of Al and from 10 ppm to 100 ppm of Ti.

28. The physical vapor deposition target of claim 21 consisting of Al and from 10 ppm to 100 ppm of Hf.

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32. (New) A physical vapor deposition target made by a process including casting, consisting essentially of:

aluminum; and

less than or equal to 1000 ppm of one or more dopant materials comprising elements selected from the group consisting of Ac, Ag, As, B, Ba, Be, Bi, C, Ca, Cd, Ce, Co, Cr, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ge, Hf, Ho, In, Ir, La, Lu, Mg, Mn, Mo, N, Nb, Nd, Ni, O, Os, P, Pb, Pd, Pm, Po, Pr, Pt, Pu, Ra, Rf, Rh, Ru, S, Sb, Sc, Se, Si, Sm, Sn, Sr, Ta, Tb, Te, Ti, Tl, Tm, V, W, Y, Yb, Zn and Zr, the physical vapor deposition target having an average grain size of less than 100 microns.

33. (New) The physical vapor deposition target of claim 32 having a size of greater than or equal to 1000 millimeters.

34. (New) The physical vapor deposition target of claim 32 wherein the physical vapor deposition target is monolithic.